‘Drooping with the century’: fatigue and the *fin de siècle*¹

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In the prologue to his 1892 short story, *Number Twenty*, the English satirist Henry Duff Traill personifies the nineteenth century as an exhausted, dying old man. Opening at 11.30 p.m. on 31 December 1900, Traill’s story finds Old Seekleham – an ungainly pun on the Latin *saeculum* (century) – with just half an hour to live. Far from mourning his impending death, however, Seekleham greets it with a weary resignation, even relief: ‘It was not that he had attained to a greater age than his ancestors, who, in fact, had all been centenarians like himself; it was that his life, as measured by exciting and consequently fatiguing experiences, had already far exceeded most of theirs.’²

From the violent wars and conflicts of his youth, through a middle age spent in energetic trade and travel, to yet further achievements in old age as a scientist and inventor, Seekleham’s life is one that has been uniquely enervating. At the same time however – for all of its frenzied activity – it has also been singularly unsatisfying. While industry and empire have opened up the globe to an extent unknown to his ancestors, he feels more alone in the world than ever. For all of its promise, modern science has revealed ‘almost everything except what he most wanted to discover.’³ All the effort that Seekleham has spent on his own progress, has only advanced him closer to oblivion. With less than half an hour of his life remaining, he is left reclining limply on a couch, disillusioned, dissatisfied, and above all, exhausted.

As he reaches his final minutes, Seekleham is joined at his bedside by a choir of ‘Decadents’, who sing ‘in praise of exhaustion, and

disillusion, and failure, and emptiness, and weariness.' Individual singers explore themes of 'decay' and 'decline', with another reciting a 'sombre poem' on the subject of exhaustion. Finally, as the clock strikes midnight, they all join in an 'Ode to the Spirit of Decadence'.⁴ Before the performance ends, however, Seekleham has already succumbed to his fatigue, disappearing to make way for the newborn Twentieth Century.

Traill, who fittingly died himself in 1900, was not alone in associating the end of the nineteenth century with exhaustion. Medical writers, as the physician Clifford Allbutt observed in 1895, were likewise concerned that the British population was 'drooping with the century'.⁵ The final decades of the century saw a proliferation of attempts to define, describe, measure, and control physical and mental fatigue, a category that had been practically absent from medical or scientific discourse before the late 1860s. At the same time, the question of the conservation of bodily energies was discussed by commentators across disciplinary boundaries (including, not only physicians, but physicists, philosophers, and political economists), as one of the key problems of the modern age. By the close of the century, contemporaries were certain that they lived in an 'age of fatigue', with medical professionals concerned that their era would be remembered by posterity as 'the Tired Age'.⁶

Late nineteenth-century discourse on fatigue expressed a variety of concerns about modernity and its limits, and about social, political, and cultural decline. It did so in a language that drew on a range of scientific and cultural tropes. Crucially, this discourse relied on a new scientific understanding of the material world and of the body, grounded in the concepts of 'energy' and 'work'. As Anson Rabinbach has shown, this new paradigm, inaugurated by the 'discovery' of the laws of thermodynamics, exerted a pervasive influence across Europe in the second half of the nineteenth century.⁷ At its centre was the metaphor of the 'human motor': the notion that the body operated in the same way as a thermodynamic engine, converting nature's 'energies' into productive 'work'. In this context, older moral proscriptions against sloth and idleness were superseded by materialist concerns about the limits of bodily efficiency. Fatigue – understood as the body's inbuilt resistance to continued productivity – emerged as 'the endemic disorder of industrial society', coming to embody a vast range of anxieties about social, economic, political, and cultural decline.⁸

While Rabinbach's account, focusing primarily on Continental Europe, barely mentions developments in Britain, for a number of British scientific writers and cultural commentators in the second half of the nineteenth century, energy and fatigue were central preoccupations. Particularly after 1870 – with Britain's dominant global status increasingly threatened by the rise of international competitors such as Germany and the United States – bodily exhaustion became a focus for a wide range of anxieties about economic and political decline, cultural stagnation, and the challenges of industrial civilisation. Fatigue took its place alongside those other richly overdetermined *fin-de-siècle* signifiers – decline, degeneration, and decadence – with which historians of late nineteenth-century Britain are familiar.

Fin-de-siècle discourse was characterised by a powerful homology between the biological and the social. Repeatedly, physical and mental exhaustion were characterised as symptoms of a much broader national deterioration. Across a range of texts, metaphors of fatigue were mobilised to signify political decline, social regression, and cultural deterioration. In an influential article of 1871, the historian James Froude painted a picture of an England overcome by 'lethargy', the political and racial 'vigor' of its people teetering on the brink of 'exhaustion'.⁹ By the end of the century, in the words of Conservative politician Joseph Chamberlain, Britain had become a 'Weary Titan', overburdened by its vast colonial possessions and struggling to match the energy and dynamism of its international rivals.¹⁰ In British cultural life the critic John Addington Symonds diagnosed a pervasive 'world-fatigue [which has] penetrated deep into our spirit'.¹¹

Medical writers were likewise concerned that modern civilisation was taking its toll on the physical and mental constitution of the British population. The 'working powers of the community at large', it was argued, were undergoing depletion as a result of the vast and rapid social and technological changes that had characterised the nineteenth century.¹² The spread of industrialisation, urbanisation, education, and new technologies such as the railway and the telegraph had increased the pace and intensity of modern life to such a degree that the body was unable to muster the energy to withstand its constant pressures and demands.

While it is possible to emphasise the pessimistic overtones of these writers, the status of fatigue in medical discourse – and its relationship

to modernity in particular – was always ambiguous. While the spectre of exhaustion produced anxieties about the detrimental consequences of civilisation, the limits to progress, and the inevitability of degeneration, scientific investigation of the body's energies at the same time held out the hope of revitalised and reinvigorated bodies, increased productivity, and social efficiency.¹³

Notions of energy and fatigue were shaped at the intersection of various nineteenth-century discourses, from physics and chemistry, to biology and medicine, to philosophy and literature. This chapter does not seek to identify direct lines of influence from a putatively discrete sphere of 'science' or 'medicine' to one of 'culture'. Instead, it examines the ways in which ideas from a variety of discursive arenas were adopted, modified, and reincorporated in a continual and reciprocal process. A number of historians and researchers in the medical humanities have drawn attention to the 'rich and complex interplay' between various scientific and cultural 'languages and systems of representation' operating in the late nineteenth century.¹⁴ The *fin-de-siècle* preoccupation with fatigue is here treated in these terms: not simply as the consequence of certain scientific ideas or empirical findings, nor as an isolated cultural phenomenon, but as the result of a complex exchange of ideas, images, and concepts.

Energy, work, and waste

In broad terms, the two faces of the *fin-de-siècle* discourse on fatigue can be mapped onto the first and second laws of thermodynamics, which, in turn, formed the basis of a new scientific understanding of the human body in the second half of the nineteenth century. The first law – originally theorised by Hermann von Helmholtz in 1847 and variously developed and elaborated by a number of physicists from the mid-nineteenth century onwards – asserted that all of the different physical forces observable in the universe were in fact manifestations of a single and universal 'force' (or later 'energy'). This energy could be neither created nor destroyed, but was capable of infinite interconversion into its different forms. Most importantly, as the example of the steam engine showed, nature's energies could be converted – through the intercession of human agency – into useful mechanical work.

The 'law of the conservation of energy', as an article in the *British Medical Journal* asserted in 1870, was of 'immense importance in its bearing on the subject of physiology'. It was now possible to understand the 'vital energy' of animals and human beings to be 'merely a form of physical energy, and convertible with it'.¹⁵ Furthermore, from the principle of the conservation of energy it followed that 'the total quantity of work of which a healthy man was capable ... [was] constant, no matter in what description of labour he was employed'.¹⁶ The human body could now be seen – like the productive machines of the Victorian factory – as simply another arena for the conversion of an abstract and universal labour-power into useful 'work'. Increasingly, medical textbooks envisioned the human body as a 'physical machine': an 'engine furnace ... convert[ing] energy into work'.¹⁷

However, the reassuring picture of a constant supply of universal energy ripe for conversion into useful 'work' offered by the first law of thermodynamics was almost immediately undercut by the arrival of the second. As William Thomson explained in 1851, in any transfer of energy from a warm body to a cold one, only a small fraction of the heat generated could actually be harnessed for useful 'work', with 'the remainder being irrecoverably lost to man'.¹⁸ In 1865, the German physicist Rudolf Clausius coined the term 'entropy' to describe the result of this irreversible loss of energy which accompanied any real-life process of energy conversion. Followed to its conclusion, the second law implied 'a universal tendency to the dissipation of mechanical energy': the universe was gradually tending towards an equilibrium at which point human life, let alone useful work, would, 'within a finite amount of time', be impossible.¹⁹ In the *fin-de-siècle* imagination, the image of a universe slowly, but inexorably, running out of energy both reinforced and further fuelled contemporary notions of decline and cultural pessimism. If the principle of the conservation of energy opened a space for utopian dreams of a society engineered so as to best exploit the infinite productive potentials of nature, the notion of entropy brought shadows of 'deterioration, decay, and dissolution'.²⁰

The upshot of the second law was that 'all work implies waste', and that 'the work of life' was no exception.²¹ From the very beginning, discussion of 'energy' in British medical and scientific discourse was characterised by a preoccupation with its dissipation. Rather than being a boundless productive resource, 'the energy of a human body' was 'a

definite and not inexhaustible quantity'.²² It was in this context that fatigue – the body's inbuilt 'resistance to effort', or 'to the conversion of latent energy into active motion' – emerged as a distinct phenomenon and object of concern.²³ If degeneration, in the words of Stephen G. Brush, was the 'cultural counterpart of the second law of thermodynamics', then fatigue appeared as its bodily expression.²⁴

In the mid-1870s, the question of 'overwork' became a locus for medical negotiations of energy and fatigue, and of the relationships between the body and modernity. An 1874 article in the *Contemporary Review* argued that the late nineteenth century was characterised by 'life at high pressure', with the 'severity of exertion' and 'incessant strain' demanded by modern industrial and commercial life leaving large numbers 'shattered, paralysed, reduced to premature inaction or senility'.²⁵ From 1875, a series of articles and letters in the *Lancet* and the *Journal of Mental Science* debated the extent to which 'society at large is really suffering from an amount of work, physical and mental, which is injurious to the individual, and therefore to the human race'.²⁶ Doctors mobilised the language of the physical sciences to argue that the natural 'energies' and 'nervous power' of patients were being depleted through overuse.²⁷

While fatigue had rarely before been considered a medical issue, now it was increasingly associated with pain, disease, or even death. For the esteemed surgeon, Sir James Paget, writing in 1871, fatigue had 'a larger share in the promotion or permission of disease than any other single causal condition you can name'.²⁸ By 1875, the physician George Poore was able to elevate fatigue from a mere predisposing factor in illness to a medical condition in its own right, which he further subdivided into its 'general' and 'local', 'acute' and 'chronic' forms.²⁹ Increasingly, distinctions were drawn between normal and pathological states of fatigue, or 'between fatigue and over-fatigue'.³⁰ By the early twentieth century the 'pathology of fatigue' was also supplemented by a proliferation of related conditions, from 'fatigue dyspepsia' to 'exhaustion psychosis'.³¹

The particular discursive configuration of pathological exhaustion with which historians of medicine and *fin-de-siècle* culture are most familiar is neurasthenia. Introduced into the medical vocabulary by the American physician George Miller Beard in 1869, the diagnosis gained widespread currency internationally from the late 1870s.³² Translated by Beard as 'nervous exhaustion', neurasthenia referred to a syndrome

consisting of a wide range of symptoms, but defined most prominently and consistently by chronic fatigue. Characterised as a specifically modern (and for Beard, specifically American) disorder, neurasthenia is arguably the archetypal 'disease of modernity'. While the diagnosis was never as popular in Britain as elsewhere (notably in the United States, France, and Germany), a steady flow of publications on the subject began to emerge from the 1880s onwards, and neurasthenia, often in combination with earlier concepts of 'nervous exhaustion', became an increasingly common framework for interpreting the problems of life at high pressure.

Like fatigue from overwork, neurasthenia was interpreted as a special case of the second law of thermodynamics. Its explanation in terms of the dissipation of 'nervous energy' was ubiquitous. 'It is a general principle in physics that energy in performing work is expended and finally exhausted', wrote Thomas Stretch Dowse, one of the first British physicians to adopt the diagnosis. For Dowse, biologists and physicians could 'account for the exhaustion of nervous energy in very much the same way as the physicist'.³³ Neurasthenia was a pathology of energy conservation. In the healthy individual, fatigue was the 'natural consequence of some accomplished muscular or mental work', after which 'the store of our latent forces' could be 'readily and easily replenished'. For the neurasthenic, however, 'fatigue means that such a demand has been made upon the already inefficient reserve forces that they cannot be well repaired, and nervous exhaustion is thus increased'.³⁴ Or, as another expert on neurasthenia put it, 'instead of fatigue the result is exhaustion'.³⁵ While a certain amount of fatigue was the natural consequence of normal work, continued overexertion put body and mind at risk of severe, or even permanent, debility. Behind every discussion of fatigue lay the dark entropic spectre of 'total collapse' or 'irrecoverable degeneration'.³⁶

Tiredness and civilisation

While some discussions of pathological exhaustion emphasised the dangers of pushing the body beyond its physiological limits, for other writers, the idea of fatigue as a naturally set limit on working capacity seemed to provide the key to a healthy accommodation between the body and modern civilisation. As the frenetic pace of late Victorian

society placed increasing demands on bodies and minds it was argued, fatigue acted as a kind of biological safety mechanism, alerting the subject to the dangers of overexertion, and preventing any permanent damage to the body's tissues. Fatigue was a 'warning illness', ignored at one's peril.³⁷ The authority of nature was placed in opposition to the pressures of modernity: in contrast to a 'primitive life' in which humans lived in harmony with nature and with their bodies, the demands of modern life were 'opposed to all biological laws'.³⁸ It was the task of the physician 'to see that Nature is not thwarted'.³⁹

Similar appeals to nature – and further claims of fatigue's beneficial qualities – can be found in medical and physiological discussions of the body's inbuilt 'rhythms', which were supposed to govern both voluntary movements and automatic biological functions. Like the idea of a single motive force behind the material universe, the unifying concept of natural rhythms had a pre-existing philosophical pedigree. For the philosopher Herbert Spencer, writing in 1862, rhythm was a law of nature: 'a necessary characteristic of all motion' uniting phenomena as diverse as the movement of the tides and the vibrations of a violin string.⁴⁰ Though perhaps nowhere, Spencer speculated, were 'the illustrations of rhythm so numerous and so manifest as among the phenomena of life'.⁴¹ The beating of the heart, the rhythms of digestion, and the breathing cycle were all undeniable evidence of the body's innate periodicities.

For medical writers in the second half of the nineteenth century, the concept of rhythm was key to understanding how the body conserved its energies. Periods of action, in which work was done, alternated with periods of rest, when the body's energies could be restored. 'Every living structure', as one author claimed, 'passes through alternating conditions of repose and activity: when active, the tissue is consumed; when at rest, the tissue is nourished, and the waste repaired'.⁴² Rest, it followed, was not truly inaction, but an active process of 're-creation'.⁴³ In this context, fatigue was seen to play a crucial role in regulating the body's rhythms of work and rest. In a state of nature, the physical and mental sensations of weariness had the protective function of compelling rest at regular intervals and so preventing the body's rhythms from becoming dangerously syncopated.

Here again, the problem of fatigue was understood less as the inevitable consequence of modern progress than as a failure of adaptation. Biological and social rhythms had fallen out of step. The natural

synchronisation of human beings with their environment had been disrupted. The unnatural rhythms of economic and industrial life, of motors and machines, had not been designed with the natural tempos of body or society in mind, and fatigue was the price paid by bodies – both biological and social. As George Poore explained in his article on the subject, 'Fatigue occurs directly we attempt to alter the rhythm of our vital vibrations by prolonging the periods of tension at the expense of the periods of relaxation, or by demanding for any length of time a quickening of the normal rate of vibration.'⁴⁴

For the physician Joseph Mortimer Granville, neurasthenia likewise consisted 'in the disturbance of the rhythm of the vibration of the nerve elements', caused, for example, by the body's exposure to the artificial and mechanically driven rhythms of a railway carriage.⁴⁵ Such malign rhythms, Granville and others proposed, could be corrected via the application of electronic vibrating instruments, specially designed – it was claimed – to 'control and rectify the disorderly vibrations'.⁴⁶ Thus the fatigue wrought on modern bodies as a result of technological changes could be palliated or prevented through technological means, reconfiguring the challenges of modernity as solutions.

Similarly, while modern civilisation was often placed in opposition to a supposedly 'natural' order governed by the rhythms of the body, at other times biological comparisons functioned to naturalise the rhythms of modernity. The metaphors used to describe energy and fatigue commonly aligned the body either with the technologies of industrial machinery (for example, the 'human motor'), or with the economic logic of the market. Susan Sontag is one of a number of theorists to observe that nineteenth-century anxieties about the waste of energy often 'echo[ed] the attitudes of early capitalist accumulation. One has a limited amount of energy, which must be properly spent ... Energy, like savings, can be depleted, can run out or be used up, through reckless expenditure.'⁴⁷

For health to be maintained and exhaustion avoided, *fin-de-siècle* doctors argued, the 'economy of the body' needed to be properly balanced.⁴⁸ If the 'daily out-goings' of 'bodily expenditure' exceeded the 'body-income ... paid in daily from the food we eat', the inevitable result would be 'the exhaustion of the body-capital' and 'physiological bankruptcy'.⁴⁹ As Chandak Sengoopta has observed, neurasthenia, in particular, was often presented as a pathology of economic efficiency,

striking down 'the most productive section of society in the most productive years of their life'.⁵⁰

Anson Rabinbach attributes an intensified focus on 'the wasteful expenditure of energy' in 1870s Britain to concerns about rising costs of labour, and the accompanying recognition that 'the costs of reproducing labour power could be turned into profit' through the development of a lucrative working-class consumer market.⁵¹ However – in contrast to much of the early discourse on fatigue in Continental Europe – the object of medical concern in Britain in the late nineteenth century was not, at least at first, the industrial working class. In almost every article on the subject, overwork, fatigue, and neurasthenia were problems said, for the most part, to affect 'the official, the professional, the commercial, and the literary classes'.⁵² It was not the manual worker, but 'the eminent lawyer, the physician in full practice, the minister, and the politician who aspires to be a minister ... the literary workman, or the eager man of science' who were the archetypal subjects of fatigue.⁵³ In general, concerns about overwork focused on the 'excessive mental labour' that many saw as being increasingly demanded of a swelling class of so-called 'brain workers'.⁵⁴ As one article on neurasthenia categorically put it, 'it is not among the working classes that we meet with examples of nerve exhaustion'.⁵⁵

For these writers, neurasthenic and fatigued patients were less the discontents of modern civilisation than they were its agents. While pathological fatigue was associated with weakness and degeneration, it was, at the same time, an affliction of success. If it could be called upon to explain Britain's decline, it could also be used as evidence of its social and cultural pre-eminence and imperial dominance; in a word, its modernity. 'The more advanced a nation becomes', wrote one physician, 'the more prevalent have nervous diseases been amongst its people'.⁵⁶ The tendency to exhaustion, wrote another, was 'characteristic of high states of civilisation'.⁵⁷

Late Victorian doctors were thus faced with an uncomfortable paradox. Fatigue represented the failure of the human body to meet the demands of modern life, and yet, at the same time, its increasing incidence was the best possible evidence of a society's modernity.⁵⁸ An epidemic of pathological exhaustion, if alarming, at least proved that the British nation – and particularly its 'strenuous' middle classes – stood at the forefront of human progress.⁵⁹ The problem that preoccupied

medical and scientific writers, therefore, was to reconcile immutable constraints on the powers of the body with continuing social and economic progress. Did fatigue represent the impassable boundary of modernity, or an obstacle which it was possible to overcome?

Re-energised bodies

As Catherine Oakley has argued, while scholarship on the Victorian *fin de siècle* has often stressed fears surrounding 'the dissipation or curtailment of human capacity', less attention has been paid to 'the ways in which these anxieties about biological, moral and racial decline were counterbalanced by a more optimistic interest in the physical potential of the human body'. While the spectres of physical and social degeneration provoked anxiety, Oakley argues, they also offered a rationale for new 'interventionist strategies of corporeal "regeneration"', which aimed to recuperate, augment, or maximise bodily energy.⁶⁰ If concerns about overwork, exhaustion, and neurasthenia were frequently implicated in pessimistic narratives at the end of the nineteenth century, medical and physiological writing on human energy was, at the same time, often characterised by an optimistic – or even utopian – confidence that fatigue and inefficiency could be conquered. Through the discovery of the scientific 'laws' of human effort, it was argued, fatigue, the body's inbuilt resistance to work, could be understood, controlled, or even eliminated.

In his essay on 'metaphors of human biology', the medical historian Owsei Temkin argued that the elaboration of mechanical models of human physiology allowed the development of 'a more active attitude toward the body' than was previously possible. Whereas older notions of the body as a divine creation 'imagined the human organism to be so perfectly constructed that an improvement was not even thinkable', the idea of the body as a machine or motor implied that improvements were both possible and desirable.⁶¹ While mechanical models of animal and human physiology had been articulated since at least the seventeenth century, the development of thermodynamics from the middle of the nineteenth century – for a number of thinkers – effectively closed the gap between animate and inanimate mechanisms. For dogmatic materialists, such as the biologist Thomas Huxley, 'the idea that the physical processes of life are capable of being explained in the same way

as other physical phenomena' was no less than 'the expressed or implied fundamental proposition of the whole doctrine of scientific Physiology'.⁶² The concept of 'Life' itself, the chemist H. A. Huntley went so far as to suggest, should, 'scientifically speaking', be referred to under the term 'Thermo Dynamical Phenomena'.⁶³ For those who insisted on the 'physical doctrine of life', the 'human motor' was more than just a metaphor: the human body was, in its essential properties, *no different* from any other heat engine, motor, or industrial machine converting energy (or 'force') into useful work.⁶⁴ Increasingly, physiologists and physicians viewed themselves as engineers, tasked with maintaining and increasing the efficiency of the body, optimising its potentials and expanding its capacity to convert energy into work.

In this context, fatigue – the body's inbuilt resistance to continued effort – was viewed less as an absolute barrier to the expansion of the body's productive powers, than a contingent and surmountable inefficiency. '[T]he power, and hence the usefulness, of the machine we call the human body is limited by two shortcomings prominent among others', the physiologist Michael Foster proclaimed in 1893: 'by the inertia, the sluggishness which makes it so hard to set agoing, and the readiness with which it wearies, so that its work is stopped before its task is done'. For Foster, the scientific study of fatigue would indicate how both the individual, and society as a whole, might 'extend [the] limits' of working capacity and productivity.⁶⁵ While fatigue might be the 'inevitable' consequence of work, others argued, the 'suitable management' of the body would make it possible 'to secure the maximum efficiency for the human machine'.⁶⁶

As concerns mounted about the dissipation of the nation's energetic resources towards the end of the nineteenth century, scientific research into the physiology of fatigue gained social significance. As Richard Gillespie has argued, the problem of fatigue enabled physiology, as a distinct branch of medical science and as a profession, to forge itself a 'social role' in the application of laboratory research to questions of supposedly national importance: systematic knowledge of the body's mechanisms, physiologists argued, could provide the key to industrial and social efficiency.⁶⁷ This was a period which saw the creation of Britain's first professional association for physiologists, the Physiological Society, in 1876, and the early issues of the society's journal carried numerous articles on the origins and nature of the body's

energies, the biochemical mechanisms of fatigue, the optimal rhythms of muscular contractions, the effects of different foods and drugs on bodily efficiency, and different means to measure the extent of fatigue.

In the last decades of the nineteenth century, social, industrial, and economic problems were increasingly framed in terms of the efficient deployment of human energy. Through scientific research into the 'maximum efficiency' of the body, the economist William Stanley Jevons argued in 1870, 'definiteness might possibly be given by degrees to some of the principles and laws which form the basis of our science of political economy'.⁶⁸ Physiological research into the 'laws of fatigue' focused increasingly on the rate and quantity of 'useful work' which the human body was capable of giving out.⁶⁹

For psychology, too, questions of fatigue and efficiency provided a means by which researchers could assert the practical utility of their methods. In the rush of late nineteenth-century industrial modernity, psychologists argued, mental fatigue was becoming an increasingly important problem, and its objective measurement was seen as an essential step in combating its effects. For William McDougall – a key figure in the development of a new, self-consciously scientific psychology at the turn of the twentieth century – 'the general speeding up of life' was 'the most striking characteristic of modern civilisation', and was 'rendering the study of the problems of fatigue a matter of the most urgent practical importance'. The study of fatigue, McDougall argued, 'must always be of the deepest interest from the point of view of pure science, because in studying fatigue we are studying the source of human energies, the modes and conditions of their operations, and, above all, their limitations'.⁷⁰

For McDougall, psychological fatigue had nothing to do with the subjective feelings of the individual, but was an entirely *objective* phenomenon measurable in terms of declining capacity for work. While acknowledging that of 'all the manifestations of fatigue the most familiar are the *subjective*', McDougall maintained that feelings of tiredness bore no direct relation to the capacity of the body or mind for exertion.⁷¹ As his close associate and former tutor W. H. R. Rivers put it, in 1908:

In the performance of mental work especially, decided sensations of fatigue may be experienced when the objective record shows that

increasing and not decreasing amounts of work are being done; and there may be complete absence of any sensations of fatigue when the objective record shows that the work is falling off in quantity, or in quality, or in both.⁷²

In order to measure 'objective' fatigue, the subjective elements of tiredness had to be ruthlessly dispensed with. Instead of seeking to understand the psychology of fatigue from the internal perspective of the individual, mental fatigue was externalised and objectified. It could be measured without reference to any feelings of tiredness, purely in terms of the amount of 'work' which a subject was able to produce. In the psychology of McDougall and Rivers, the brain, as well as the body, became just another site of the transformation of potential energy into useful, productive work.

If the image of the body-machine paved the way to a more interventionist attitude towards the physiological engineering of the individual, its combination with social Darwinism and eugenics at the end of the nineteenth century introduced the prospect of improving the efficiency of the race *en masse*. While Geoffrey Searle long ago associated the eugenics movement in Britain with the 'quest for national efficiency', ideas of energy and human productivity have been underexamined in histories of eugenic discourse.⁷³ In Francis Galton's project of racial regeneration, the category of 'energy' was central. In the work in which he introduced the term 'eugenics', in 1883, Galton proclaimed that energy – 'the capacity for labour' – was 'an attribute of the higher races'. 'In any scheme of eugenics', he argued, 'energy is *the most important quality* to favour'.⁷⁴ While some human beings were born with 'large powers of endurance', others were naturally 'quickly fatigued'.⁷⁵ Particularly, under 'the strain and exhausting calls of modern civilised life', Galton argued, the need for a 'measure of fatigue' was essential to ensuring the progressive evolution of a re-energised human race.⁷⁶

Conclusion: fatigue and the *fin de siècle*

In their introduction to *fin-de-siècle* culture, written at the turn of the twenty-first century, Sally Ledger and Roger Luckhurst stress the ambivalence of end-of-the-century thinking. Too great an emphasis on degeneration in accounts of the Victorian *fin de siècle*, they argue, risks 'forgetting a host of other voices that contested visions of collapse with

dreams of regeneration.⁷⁷ Likewise, any history of fatigue and its scientists at the end of the nineteenth and beginning of the twentieth century needs to accommodate both deep anxieties about the dissipation of the body's powers *and* optimistic projects for the restoration and expansion of human energies.

In Oscar Wilde's *The Picture of Dorian Gray* – perhaps the text (and author) most readily associated with the *fin de siècle* and its paradoxes – the phrase itself is immediately associated with exhaustion:

'*Fin de siècle*,' murmured Lord Henry.

'*Fin du globe*,' answered his hostess.

'I wish it were *fin du globe*,' said Dorian, with a sigh. 'Life is a great disappointment.'

'Ah, my dear,' cried Lady Narborough, putting on her gloves, 'don't tell me that you have exhausted Life. When a man says that one knows that Life has exhausted him.'⁷⁸

Like Old Seekleham in Traill's *Number Twenty*, Dorian finds fatigue to be the inevitable consequence of modern life. In both cases, however, decline is only one side of the story. If Dorian fantasises about the end of the world, he is at the same time hopelessly enchanted with the idea of his own rejuvenation; degeneration and regeneration are two sides of the same coin. Likewise, in Traill's story, the moment of death is coextensive with that of rebirth: in the same instant that Seekleham succumbs to his accumulated exhaustion, the infant Twentieth Century is born.

In *fin-de-siècle* Britain, fantasies of fatigue spawned visions of efficiency. Far from resigning themselves to the march of entropy, or relapsing into a gloomy therapeutic pessimism, a significant number of doctors, scientists, and social thinkers expressed – implicitly or explicitly – the confident conviction that, if fatigue could not be eliminated altogether, the accumulation of scientific knowledge of the body's energies would create the potential for an unparalleled increase in the efficiency and productivity of bodies both biological and social. In the first decades of the twentieth century – as concerns mounted about the physical deterioration of the working population – these convictions would form the basis of a new scientific approach to industrial work. Fatigue research turned its attention explicitly to the working class, with

the British government and employers sponsoring large-scale scientific investigations into factories and workplaces aimed at the optimisation of the working body, and the physiological and psychological rationalisation of work.⁷⁹ If fatigue had seemed to some late nineteenth-century observers to be a pathology caused by modern life, for others, as Rabinbach has argued, the science of fatigue itself became 'part of a broader strategy of social modernity', in which social problems would be overcome through technical knowledge, empirical investigation, and scientific and industrial progress.⁸⁰

Notes

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- 2 H. D. Traill, *Number Twenty: Fables and Fantasies* (London: Henry & Co., 1892), 1.
- 3 *Ibid.*, 2.
- 4 *Ibid.*, 11–12.
- 5 T. Clifford Allbutt, 'Nervous diseases and modern life', *Contemporary Review*, 67 (February 1895), 210.
- 6 M. Caird, 'The evolution of compassion', *Westminster Review*, 145 (1896), 643; 'A physician', 'Fatigue', *Quiver*, 429 (1908), 1012.
- 7 A. Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity* (New York: Basic Books, 1990).
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